



LIEBHERR

OIL ANALYSIS REPORT

| | |
|-----------------|-----------------|
| WEAR | ABNORMAL |
| CONTAMINATION | ABNORMAL |
| FLUID CONDITION | NORMAL |



Machine Id
LIEBHERR LH50 1216-123739
Component
Rear Differential
Fluid
GEAR OIL SAE 75W90 (--- GAL)

RECOMMENDATION

No corrective action is recommended at this time. Resample at the next service interval to monitor.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number | | Client Info | | LH0211709 | LH0211681 | LH0211653 |
| Sample Date | | Client Info | | 17 Jun 2024 | 31 Jan 2024 | 09 Aug 2023 |
| Machine Age | hrs | Client Info | | 12322 | 10743 | 8617 |
| Oil Age | hrs | Client Info | | 0 | 0 | 0 |
| Filter Age | hrs | Client Info | | 0 | 0 | 0 |
| Oil Changed | | Client Info | | Not Changd | Not Changd | Not Changd |
| Filter Changed | | Client Info | | Not Changd | Not Changd | None |
| Sample Status | | | | ABNORMAL | NORMAL | ABNORMAL |

WEAR

The copper level is abnormal. All other component wear rates are normal.

| | | | | | | |
|--------------|--------|-------------|------|--------------|------|--------------|
| Iron | ppm | ASTM D5185m | >190 | 58 | 40 | 180 |
| Chromium | ppm | ASTM D5185m | >2 | <1 | 0 | 2 |
| Nickel | ppm | ASTM D5185m | >2 | <1 | 0 | <1 |
| Titanium | ppm | ASTM D5185m | | 0 | 0 | <1 |
| Silver | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >5 | 3 | <1 | 6 |
| Lead | ppm | ASTM D5185m | >15 | 0 | 0 | <1 |
| Copper | ppm | ASTM D5185m | >70 | ▲ 88 | 56 | ▲ 185 |
| Tin | ppm | ASTM D5185m | >2 | 0 | 0 | 0 |
| Vanadium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| White Metal | scalar | *Visual | NONE | NONE | NONE | MODER |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |

CONTAMINATION

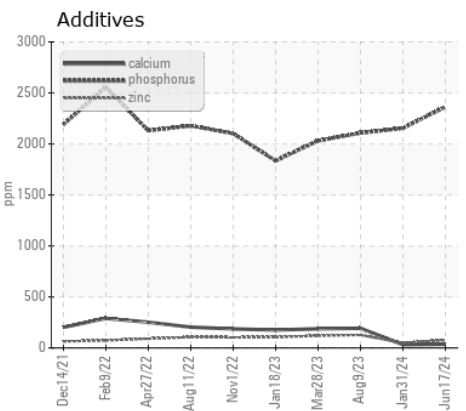
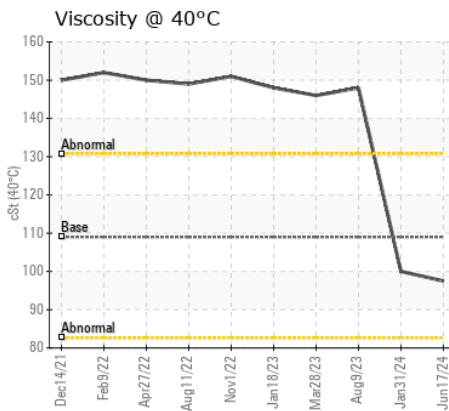
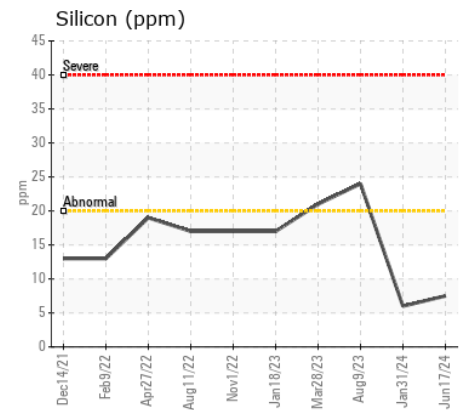
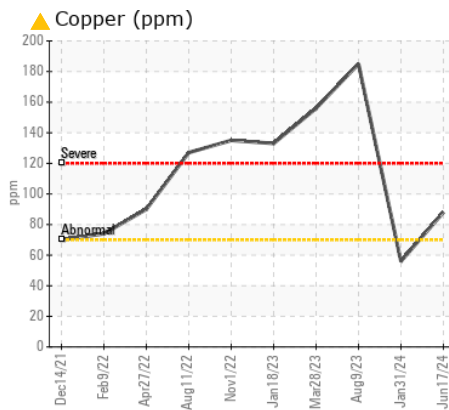
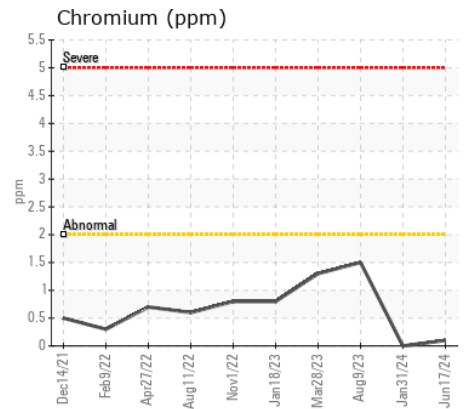
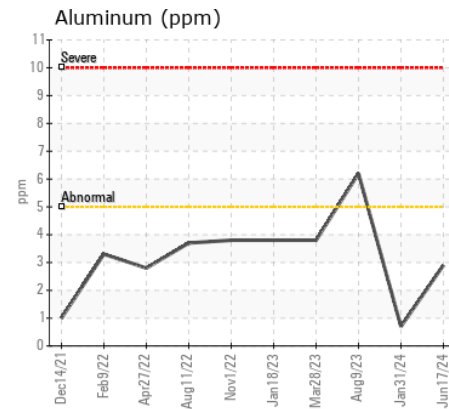
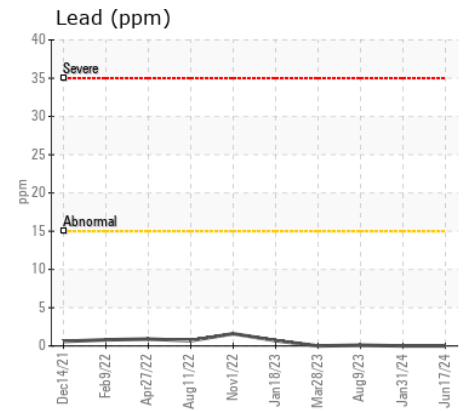
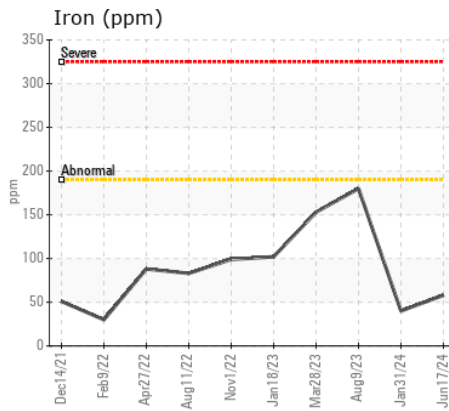
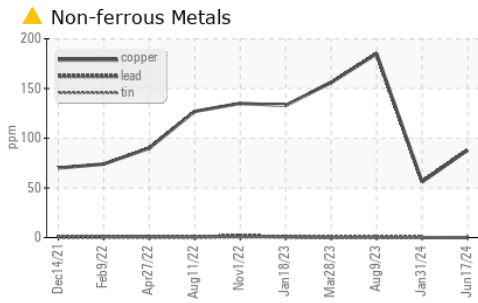
Moderate concentration of visible dirt/debris present in the oil.

| | | | | | | |
|------------------|--------|-------------|-------|----------------|-------|-------|
| Silicon | ppm | ASTM D5185m | >20 | 8 | 6 | 24 |
| Potassium | ppm | ASTM D5185m | >20 | 1 | 0 | <1 |
| Water | | WC Method | >.2 | NEG | NEG | NEG |
| Silt | scalar | *Visual | NONE | NONE | NONE | NONE |
| Debris | scalar | *Visual | NONE | ▲ MODER | NONE | NONE |
| Sand/Dirt | scalar | *Visual | NONE | NONE | NONE | NONE |
| Appearance | scalar | *Visual | NORML | NORML | NORML | NORML |
| Odor | scalar | *Visual | NORML | NORML | NORML | NORML |
| Emulsified Water | scalar | *Visual | >.2 | NEG | NEG | NEG |

FLUID CONDITION

The condition of the oil is acceptable for the time in service.

| | | | | | | |
|------------|-----|-------------|-------|--------------|-------|-------|
| Sodium | ppm | ASTM D5185m | | 4 | 3 | 8 |
| Boron | ppm | ASTM D5185m | 400 | 245 | 314 | 5 |
| Barium | ppm | ASTM D5185m | 200 | 0 | 0 | <1 |
| Molybdenum | ppm | ASTM D5185m | 12 | 0 | 0 | 0 |
| Manganese | ppm | ASTM D5185m | | 4 | 2 | 8 |
| Magnesium | ppm | ASTM D5185m | 12 | <1 | <1 | 4 |
| Calcium | ppm | ASTM D5185m | 150 | 36 | 32 | 193 |
| Phosphorus | ppm | ASTM D5185m | 1650 | 2364 | 2154 | 2108 |
| Zinc | ppm | ASTM D5185m | 125 | 77 | 48 | 127 |
| Sulfur | ppm | ASTM D5185m | 22500 | 30198 | 21631 | 28097 |



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : LH0211709
Lab Number : 06218976
Unique Number : 11097173
Test Package : MOBCE
Received : 24 Jun 2024
Tested : 25 Jun 2024
Diagnosed : 26 Jun 2024 - Don Baldrige

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To discuss this sample report, contact Customer Service at 1-800-237-1369.
 * - Denotes test methods that are outside of the ISO 17025 scope of accreditation.
 Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)